

What is claimed is:

1. An evacuation system for an offshore unit having at least a portion adapted to be submerged below the water level comprising:
 - 5 - at least one submarine evacuation module attached to the offshore unit, the module comprising:
 - a submarine for transporting personnel to be evacuated; and
 - a watertight submarine bay fixed to the offshore unit for holding the submarine, the bay having a door to permit the
 - 10 - a shaft connecting the submarine bay to a predetermined location on the offshore unit to provide the personnel access to the submarine bay.
2. An evacuation system as claimed in claim 1 wherein the submarine evacuation module is attached to the offshore unit below the water level.
3. An evacuation system as claimed in claim 2 wherein the evacuation module includes means for flooding the submarine bay.
4. An evacuation system as claimed in claim 3 wherein the evacuation module includes means for operating the door.
5. An evacuation system as claimed in claim 4 wherein the evacuation module includes a control system for operating the flooding means and the door
- 25 operating means in sequence.
6. An evacuation system as claimed in claim 5 wherein the evacuation module includes a dry entry tube for connecting a universal mating system hatch on the submarine to a hatch on a wall of the submarine bay.
- 30 7. An evacuation system as claimed in claim 6 wherein the dry entry tube is adapted to provide a watertight passage from the submarine bay hatch to the universal mating system submarine hatch.
- 35 8. An evacuation system as claimed in claim 7 wherein the dry entry tube is made from flexible material.

- 5 9. An evacuation system as claimed in claim 5 wherein the universal mating system hatch includes a switch for activating the control system.
10. An evacuation system as claimed in claim 4 wherein the evacuation module includes a hook mechanism for coupling the submarine to the submarine bay.
- 10 11. An evacuation system as claimed in claim 10 wherein the evacuation module includes a control system for operating the flooding means, the door operating means and a release means for the hook mechanism in sequence.
12. An evacuation system as claimed in claim 11 wherein the control system includes hydraulic, electrical and mechanical systems.
- 15 13. An evacuation system as claimed in claim 11 wherein the evacuation module includes a sonar system for detecting obstructions near the bay door outside of the bay.
- 20 14. An evacuation system as claimed in claim 1 wherein the submarine bay has doors at both ends.
15. An evacuation system as claimed in claim 2 wherein the evacuation module is located within a pontoon of a semi-submersible offshore unit.
- 25 16. An evacuation system as claimed in claim 2 wherein the evacuation module is located above a pontoon of a semi-submersible offshore unit.
- 30 17. An evacuation system as claimed in claim 2 wherein the evacuation module is located within a hold of a vessel offshore unit.
18. An evacuation system as claimed in claim 17 wherein the evacuation module is adapted to launch the submarine onto the surface of the water.
- 35 19. A submarine evacuation module for attachment to an offshore unit for

evacuating personnel from the unit comprising:

- a submarine for transporting personnel to be evacuated; and
- a watertight submarine bay adapted to be fixed to the offshore unit below the water level for holding the submarine, the bay having a door to permit the launch of the submarine from the bay.

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20. A submarine evacuation module as claimed in claim 19 wherein the bay includes a hook mechanism for coupling the submarine to the submarine bay.

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21. A submarine evacuation module as claimed in claim 20 wherein the bay includes a roller system within the bay for cradling the submarine and guiding its movement into and out of the bay.

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22. A submarine evacuation module as claimed in claim 21 wherein the bay includes means for flooding the submarine bay.

23. A submarine evacuation module as claimed in claim 22 wherein the bay includes means for operating the door.

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24. A submarine evacuation module as claimed in claim 23 wherein the bay includes release means for the hook mechanism.

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25. A submarine evacuation module as claimed in claim 24 wherein the bay includes a control system for operating the flooding means, the door operating means and the release means for the hook mechanism in sequence.

26. A submarine evacuation module as claimed in claim 25 wherein the control system includes hydraulic, electrical and mechanical systems.

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27. A submarine evacuation module as claimed in claim 25 wherein the bay includes a sonar system for detecting obstructions near the bay door outside of the bay.

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28. A submarine evacuation module as claimed in claim 20 wherein the submarine includes connector means for coupling the submarine to the hook mechanism.

29. A submarine evacuation module as claimed in claim 28 wherein the connector means includes a u-bolt adapted to be sheared from within the submarine.
- 5 30. A submarine evacuation module as claimed in claim 29 wherein the submarine includes a control system for operating the flooding means and the door operating means.
- 10 31. An submarine evacuation module as claimed in claim 19 wherein the submarine bay has doors at both ends.
32. A submarine evacuation module as claimed in claim 29 wherein the submarine includes motor means for propelling the submarine.
- 15 33. A method of evacuating personnel from an offshore unit having a portion adapted to be submerged below the water level, wherein the offshore unit includes at least one submarine module having a submarine held within a watertight submarine bay, comprising:
- a. having the personnel enter the submarine;
 - b. flooding the bay;
 - 20 c. opening a door in the submarine bay; and
 - d. propelling the submarine from the bay to a predetermined location remote from the offshore unit.
- 25 34. A method of evacuating personnel from an offshore unit as claimed in claim 33, which includes the step of releasing the submarine from the submarine bay.
- 30 35. A method of evacuating personnel from an offshore unit as claimed in claim 33, which includes the step of releasing the submarine from the submarine bay after step c..
36. A method of evacuating personnel from an offshore unit as claimed in claim 33 wherein step a. includes:
- a.1. having the personnel gather at a muster station;
 - 35 a.2. counting the personnel gathered;
 - a.3. checking the submarine; and

a.4 having the personnel enter the submarine.

37. A method of evacuating personnel from an offshore unit as claimed in claim 33 wherein step a. includes:

- 5 a.1. having the personnel gather at a muster station on a deck of the offshore unit;
- a.2. counting the personnel gathered;
- a.3. having the personnel proceed to a muster station at the submarine bay;
- a.4. counting the personnel at the submarine bay muster station;
- 10 a.5. checking the submarine; and
- a.6 having the personnel enter the submarine.

38. A method of evacuating personnel from an offshore unit as claimed in claim 37 wherein step a.6. is taken after a final evacuation order is given.